Explanation of Amendments in the Claims:

1.(currently amended) A method for cognitive function assessment in a patient comprising:

adapting a neuropsychological test to a computer format to ~~present~~ produce a computerized standardized psychometric neuropsychological test for presentation of stimuli to the patient;

simultaneously ~~with the presentation of~~ presenting the test~~,~~ to the patient and recording ~~a~~ the patient's electroencephalographic (EEG) ~~activity~~ signals ~~using standard research level EEG equipment using particular bandpass filter settings that enable~~ to effect recording of late-occurring "cognitive" event-related potentials (ERP) from a number of locations on ~~a subject's~~ the patient's head to provide ERP data;

~~manipulating the recorded EEG signals in order to examine each sample of recorded EEG and average together;~~

applying a series of analysis algorithms that relate the ERP data to obtained behavioral data in an interpretable manner;

applying a series of analysis algorithms that permit interpretation of the ERP data within the context of the ~~standardized~~ test's framework even in the absence of behavioral data;

and making ~~prognoses~~ a prognosis of patient outcome using the ERP data obtained using the ~~computer adapted neuropsychological tests~~ test;

wherein the steps of the method are conducted in such a manner as to permit the evaluation of a patient's state of mental functioning using the ERP data even if the patient is unable to verbally or behaviorally perform the test in a typical fashion.

Cancel Claim 2.

3.(currently amended) The method according to Claim 1 including using the ~~above~~ steps of the method to evaluate patient progress through medical treatment using the ERP data obtained using the ~~computer-adapted neuropsychological tests~~ test.

4. (currently amended) The method according to Claim 1 wherein the analysis ~~uses~~ algorithms use the Pearson correlation coefficient to evaluate the strength of ~~this~~ an association between the ERP data and the obtained behavioral data.

5.(currently amended) The method according to Claim 1 wherein the analysis ~~uses~~ algorithms use waveform features and parameters that maximize the correlation between the ERP ~~components~~ data and ~~the neuropsychological~~ test scores of the test.

6.(currently amended) The method according to Claim 1 wherein the test applied assesses the function ~~assessed is that~~ of semantic comprehension ability and wherein the analysis ~~uses~~ algorithms use the N400 component of the ERP data.

7.(currently amended) The method according to Claim 1 wherein the test applied assesses the function ~~assessed is that~~ of memory ability and wherein the analysis ~~uses~~ algorithms use the P300 and the LPC (late positive component) of the ERP data.

8.(currently amended) The method according to Claim 1 wherein the analysis ~~uses~~ algorithms use a discrimination which is formally expressed using serial t-scores that provide a statistical method of comparing two waveforms on a point-by-points basis to establish where they differed in time.

9.(currently amended) The method according to Claim 8 wherein the analysis algorithms used act to calculate ~~calculates~~ the variance for each point in the waveform necessary to achieve the t-scores using homologous points in each of the trials that went into making up the two ~~averaged~~ waveforms [[( ]], wherein one waveform is congruent and the other is incongruent [[ )]].

10.(currently amended) The method according to Claim 8 wherein a succession of sums of t-scores is obtained for each of ~~the~~ three levels of difficulty of the test across ~~the~~ three electrode sites [[( ]], the three sites being Fz, Cz and Pz[[ )]].

11.(currently amended) The method according to Claim 10 wherein the sums are calculated in a temporal interval that is both centered to the peak latency and increased in a step-wise fashion by 40 milliseconds [[( ]], that is semi-intervals of 20 ms on each side of the peak[[ )]].

12.(currently amended) The method according to Claim ~~1~~ 8 wherein the ~~method provides for the~~ analysis[[:]] algorithms obtain one baseline case ~~in which the a sum~~ that is composed of a single t-score ~~(at the peak);~~ and ten different sums of t-scores obtained from ten different semi-intervals varying by 20 ms from 20 ms to 200 ms

13.(currently amended) The method according to Claim 1 ~~using~~ wherein the test comprises the first level of ~~the~~ a computerized Peabody Picture Vocabulary Test PPVT in conjunction with a centro-parietal montage (Cz and Pz).

14.(currently amended) The method according to Claim 1 wherein, if a linear relationship links certain elements of the ~~ERPs~~ ERP data to Peabody Picture Vocabulary Test-Revised PPVT-R scores, then the correlation coefficients that

numerically express this relationship ~~is~~ are used to elucidate which waveform features are critical.

15.(currently amended) The method according to Claim ~~4~~ 5 wherein ~~by adjusting the correlational analysis to fit these optimal waveform features (i.e., optimization), the magnitude tends to one (perfect correlation)~~ the analysis algorithms are used to obtain the waveform features and strategies that provide the highest Pearson correlation between the ERP data and neuropsychological performance.

Cancel Claim 16.

Add new claims as follows:

17.(new) The method according to Claim 8 wherein the analysis algorithms are used to obtain the sum of the t-scores between two compared waveforms for the patient at each or among any combination of electrodes for a temporal interval that is the sum that is correlated with the behavioral performance of the patient.

18.(new) The method according to Claim 8 wherein the analysis algorithms are used to take the highest sum of t-scores between two compared waveforms for the patient among any combination of electrodes for a temporal interval that is the highest value that is correlated with the behavioral performance of the patient.

19.(new) The method according to Claim 18 wherein the analysis algorithms are used to obtain the temporal interval and the combination of electrodes which produce the highest Pearson correlation between the ERP data and neuropsychological performance.

20.(new) The method according to Claim 19 wherein the equation for the linear regression is based on the highest Pearson correlation to predict behavioral performance using only ERP data measures which are comprised of features and strategies.

21.(new) A method for cognitive function assessment in a patient comprising:

adapting a standardized psychometric test to a computer format to produce a computerized standardized psychometric neuropsychological test for presentation of stimuli to the patient;

simultaneously presenting the test to the patient and recording the patient's event-related potential (ERP) obtained from an EEG (electroencephalogram) to generate ERP data;

applying algorithms that relate the ERP data to behavioral data through a regression line in an interpretable manner within the context of standardized psychometric tests;

using this regression line to interpret the ERP data within the context of standardized psychometric tests even in the absence of behavior/performance measures;

and making prognosis of the patient using the ERP data;

wherein the steps of the method are conducted in such a manner as to permit the evaluation of a patient's state of mental functioning using the ERP data even if the patient is unable to verbally or behaviorally perform the test in a typical fashion.

22.(new) A method for cognitive function assessment in a patient comprising:

adapting a neuropsychological test to a computer format to produce a computerized standardized psychometric neuropsychological test for presentation of stimuli to the patient;

wherein the patient is unable to verbally or behaviorally perform the test in a typical fashion;

simultaneously presenting the test to the patient and recording the patient's electroencephalographic (EEG) signals to effect recording of late-occurring "cognitive" event-related potentials (ERP) from a number of locations on the patient's head to provide ERP data even in the absence of behavioral data from the test on the patient;

applying a series of analysis algorithms that relate the ERP data obtained in the test to obtained behavioral data in an interpretable manner;

applying a series of analysis algorithms that permit interpretation of the ERP data within the context of the test's framework;

and making a prognosis of patient outcome using the ERP data obtained using the test.